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A Case Series on Dengue Fever (~ *Pittaja Jwara*) Treated with Ayurvedic Treatment.

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Abstract: Dengue fever is a public health problem and it is emerging in tropical and sub-tropical countries like India and it is also potentially a fatal illness which hampers the quality of life. Dengue is more prevalent, fastest spreading disease which is kind of serious concern worldwide at the moment. Objective of the study was to observe the improvement in clinical features (signs and symptoms) and improvement in platelet count among Dengue cases. In this case series, five clinically diagnosed cases of Dengue were prescribed Ayurvedic treatment. All were evaluated on 3rd, 5th and 7th day of treatment. The rural population in certain districts of Maharashtra still does not have full access to the timely diagnosis and management of acute and debilitating febrile illnesses like Dengue. As all these identified patients were relatively stable and there was no significant hemodynamic compromise observed, it was decided to start them on Ayurvedic preparations. The duration of treatment was seven days. All five patients were closely monitored. This comprehensive intervention with the help of Protocol in Ayurveda showed favorable outcome and all the five patients recovered completely without any complication.

Keywords: – Dengue fever, *Jwara*, platelet count, *Sannipataaj*, mala, mutra, tropical disease.

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Introduction:

Case of Dengue fever are found in more than 100 countries and it is estimated that annually above 390 million infections occur globally.^[1] Dengue fever, also known as break-bone fever, is an infectious tropical disease caused by the Dengue virus. In India, large number of cases are reported in urban as well as rural area. The fatality caused by Dengue is very high amongst the children.^[3] Basic principles of Ayurveda is to maintain the health of a healthy person and to cure diseases. Symptoms of Dengue include fever, headache, muscle and joint pain and a characteristic skin rash. It's clinical signs and symptoms can be compared with *Pitta* dominant *Sannipatajajwara* mentioned by *Acharya Charaka*.^[3] As there is no clear and direct reference observed in classics, Ayurveda explains the factors which can be understood and followed to treat such "Anuktavyadhi" i.e., which is not mentioned in the classics.^[4] It gets transmitted by the bites of infected female *Aedes Aegypti* mosquito and it causes a more serious form of a Dengue, also called as Dengue Haemorrhagic Fever (DHF) or severe Dengue. Investigations like virus-specific antibodies, NS-1 antigen IgG and IgM antibodies can be useful in confirming a diagnosis in the early and later stages of the infection.^[5]

Objective of the study:

1. The objective of the study was to observe the improvement in clinical signs and symptoms and change/increment in platelet count among Dengue cases.

2. To prevent or limit the development of complications, if any.

Methodology:

Confirmed cases of Dengue with clinical signs and symptoms were prescribed following Ayurvedic treatment and follow up was done on 3rd, 5th and 7th day. All patients were informed about rules to follow pertaining to the food, water intake and daily regime along with Ayurvedic treatment.

General Ayurvedic Treatment Protocol:

1. *Bramhayush* 150 ml thrice a day for 5 days
2. Pomegranate or Black Raisins as per hunger with a pinch of black salt at noon for 7 days.
3. *Suvarna Sutshekhar* 125 mg thrice a day with 1 teaspoonful of milk and pinch of sugar for 5 days 2 hours before meals.
4. *Godanti Mishran* 125-250 mg thrice a day post meal
5. *Amruttotharam kashayam* 10-15 ml twice a day Empty Stomach as *Kshudha* improves for 7 days.

All Patients were advised to take Tablet of Paracetamol 650 mg if temperature rises above 102 °F. Among these, only one patient needed a single Paracetamol 650 mg on Day 1 in the night. After that none of the patients required it. This protocol was continued till 7 days and follow-up of all patients was done on 3rd, 5th and 7th day.

Case history and illustration:**CASE NO.1**

A 10-year old female child had come with high grade fever, vomiting, abdominal pain, headache, moderate bodyache, severe

weakness and tiredness. *Prakriti* assessment was done and she was found to have *Vata-Pitta Prakriti*. General examination showed tachycardia (pulse was 100/minutes), and mild tachypnea. Respiratory rate was 20/minute. Simultaneously, *Ashtavidha parikshana* was also performed. It was observed that *mala* was *Alpa-peetabh*, *Mutra-Peetabh*, *Jeevha -Saam*, *Sparsha-Ushna* and her *Akruti* was *Krush*. On day 0, white blood cell count was 4100/cumm which was borderline low. Platelet count was normal (210000/ cumm). Her NS1 Antigen was positive, IgG, IgM were negative.

On Day 3

With continuation of the above-mentioned treatment, on day 3, her fever subsided. There was no nausea, vomiting or abdominal pain. However, she had a mild headache and myalgia in body. CBC was repeated. WBC count was 5100/ cumm. There was no drop in the platelet count (it was 250000/cumm).

On Day 7

On the 7 day follow up, almost all symptoms subsided. Slight weakness and tiredness were there. Her oral intake remained relatively poor during the first half of a week. As there was recovery, and no new clinical features were observed, CBC was not repeated.

CASE NO.2

A 14-year, male, of *Kapha-Pitta Prakriti* was seen. He was having high grade fever, severe vomiting, abdominal pain, headache, retro-orbital pain, severe body ache, anorexia, severe weakness, bleeding from stools and skin rash. General

examination showed temp-101°F, tachycardia (108/minute), respiratory rate was 22/minute. Blood pressure was 100/70 mmHg. Investigations were performed. His white blood cell count was 3500/cu mm which was low. Platelet also decreased up to 196000/cu mm, NS-1 antigen, IgG and IgM were positive for this patient.

On Day 3

On day 3, the patient had no fever, there were 1-2 episodes of vomiting followed by abdominal pain and there was a body ache, mild anorexia, weakness along with tiredness were present. Vitals were normal. Investigations were repeated; white blood cell (WBC) count was 3100/cu mm which was less than normal in the platelet count also less compared to previous account that was 159000/cu mm.

On Day 7

There was only weakness and tiredness in this patient and rest all symptoms were relieved.

CASE NO 3:

A female 8-year child came with fever, vomiting, abdominal pain, headache, and tiredness. General examination was done, pulse rate was 96/minute, respiration 18/minute, patient was having *Alpanirama Mal*, *Jivha Saama* and *Krush Akriti* and was having *Kapha Pitta Prakriti*. This patient was also started a common treatment protocol. Investigations were done, white blood cell (WBC) count was 3100/cumm which was less than normal, the platelet count was 200000/cu mm. NS1 Antigen was positive while IgG and IgM were negative.

On Day 3

They were almost all symptom relief observed on Day 3 except weakness and tiredness to this patient, even *Agni* was also improved.

On Day 7

Same treatment was continued till the 7th day, there was no any kind of deterioration or any sign/ symptom developed except ongoing mild tiredness, other vitals were within normal limit. He got relieved and was discharged on the 7th day. No further investigations were done in this patient.

CASE NO.4

A 35-year female came with fever, vomiting, abdominal pain, severe headache and Anorexia weakness and skin rash. On examination, it was observed that the pulse rate was 110/min, respiration rate 20 per minute and heart rate was 110/minute and the case belonged to *Vata Kapha Prakriti*. It was also noticed that she is having *Sam Durgandhi Malpravrutti, Peetabh Mutra Pravrutti, Jivha Saam* and *Low Agni*.

Investigation was done, white blood cell (WBC) count was 4000/cumm, and the platelet count was 190000/cumm. NS1 Antigen was positive while IgG also positive and IgM was negative. Same protocol was started and along with *Guduchi Fresh Swarasa* was given for 5 days empty stomach instead of *Amrutthotharam Kashayam* in this case. Case was having fever more than 102°F on the day 1st night hence needed a single Paracetamol 650 mg.

On Day 3

On Day 3 the patient has mild fever 1-2 episodes of vomiting followed by headache, severe anorexia, weakness and tiredness also

present on day 3. Blood investigation performed white blood count was 3100/cu mm and platelet count was 130000/cu mm.

On Day 7

The treatment continued, most of the symptoms on day 7 were relieved except weakness and tiredness.

In this case on the 10th day CBC was repeated. White blood cell (WBC) count was 6100/cu mm, the platelet count was 250000/cu mm.

CASE NO. 5

A 26-year male patient came with High grade fever, vomiting, abdominal pain, severe headache and Anorexia weakness and mild skin rash. On examination, it was observed that the pulse rate was 130/min, respiration rate 26 per minute and heart rate was 130/minute and the case belonged to *Vata Pitta Prakriti*. It was also noticed that he has *Sam Durgandhi malpravrutti, Peetabh mutrapravrutti, Jivha saam* and *Low Agni* (less capable to digest routine food)

Investigation was done, white blood cell (WBC) count was 4800/cumm, and the platelet count was 159000/cumm. NS1 Antigen was positive while IgG also Negative and IgM was negative. Case was having a fever more than 102°F. Fever was not getting controlled with oral Paracetamol 650 mg. Hence patient was referred to a rural hospital where IV antipyretic were introduced for 2 days. But vomiting, weakness, abdominal pain & anorexia was continued so, relative again contacted for *Ayurved* Follow up. Same protocol was followed with slight change *Guduchi Swaras* (*Tinospora Cordifolia*) 20 ml BD empty stomach instead of *Amrutthotharam*

Kashayam & Shadang Granules (Market Preparation of *Musta, Parpatak, Ushir, Chandan, Udeechya, Nagar, Sharkara*) was introduced for *rehydration & Antipyretic Purpose*.

On Day 3

On Day 3 the patient has moderate fever (100 deg f), vomiting followed by headache, severe anorexia, weakness and tiredness also present on day 3. Blood investigation performed white blood count was 3800/cu mm and platelet count were 78000/cu mm.

On Day 7

The treatment continued, most of the symptoms on day 7 were relieved except weakness and tiredness. Mild loss of taste was present. All symptoms were relieved totally on day 10. In this case on 7th day CBC was repeated. White blood cell (WBC) count was 4000/cu mm, the platelet count was 90000/cu mm. Platelet count on day 10 was 150000/cu mm.

Discussion:

Ayurveda promotes the concept that if one's immune system is strong, then even if the body is exposed to viruses or parasites, one will not be affected. During a pandemic or an epidemic, *Ayurveda* emphasizes on the strong immunity of people living in regions affected. According to *Ayurveda* daily dietary habits (*Ahara*) and Lifestyle (*Vihara*) plays a major role in disease management. *Ayurvedic* remedies comprise pure natural herbs which are effective in preventing conditions like Dengue. Moreover, the medicine is used to relieve the symptoms in Dengue and also boosts the immune system. The mortality is 1

– 5% without treatment and less than 1% with adequate treatment. [6] Till date, no specific treatment is available for Dengue fever in any system of medicine. Though Dengue does not cause very high morbidity or mortality, it is currently being managed by clinicians on various preventive as well as symptomatic therapy and similarly can be managed by *Ayurveda* system of medicine as well. The main aim of *Chikitsa in Ayurveda* is aimed towards the *Vighatana of Vyadhi Samprapti or Dosha Dushya Sammurchhana*. *Nava Jwara* (Acute fever) can be managed by *Langhana, Swedana, Yavagu Sevan, Tikta Rasa, Ama Pachana* (drugs which improve the abnormal metabolism). [7] In this case series it was decided to give *Ayurved* specified individual protocol for the management of Dengue, the duration of treatment was seven days and all five cases were under observation during the period of treatment.

Accordingly, Treatment was planned and formulations were prepared which might be having mode of action as given below -

Mode of action :

Ayurved focuses on Concept of *Agni Sanrakshan* (Protection), along with *Vardhan* (rise in digestive capability). *Ayurvedic Classics* have mentioned various types of *Jwara* and their specific treatment protocol. Taking into consideration the *Ayurvedic Diagnostic Concept* we followed the guideline explained in *Ayurvedic* text for diagnosis of these particular conditions. All above cases were diagnosed as *Pitta Dominant Jwara* with mild involvement of *Vata & Kapha dosha*.

Treatment Protocol was planned based on basic treatment principles (*Siddhanta*) of *Ayurved*:

1. *Langhan* (~Fasting) with *Laghu Drav Sujar Aahar* (easily digestible liquid diet) as per *Agni*.
3. *Vyadhipratyaneek Aushadhi* (Disease wise medications)

2. *Aampachan* (Digestion undigested material) and *Agnideepan* (improving quality of digestive juices to clear anorexia)

Table no.1 Medicine & its Manufacturer

Sr	Medication	Effect	Manufacturer
1	<i>Suwarnasutshekhar Ras</i>	<i>Pitta Pradhan Tridosh</i> <i>Sam Pitta vastha,</i> <i>Hridya</i>	Unjha/ Baidyanath
2	<i>Bramha Yush</i> (Ready mix of Green gram floor with Rock salt Black pepper <i>Trachyospermum Ammi, Garlic & Jeerak</i>)	<i>Agnideepan & Rasa Dhatu balya</i>	Shri Bramhachaitanya Ayurved
3	<i>Godanti Mishran</i>	Acts by Reducing <i>Pitta doshaj</i> Symptoms like Fever, Vomiting, Fatigue & <i>Jwaraghna</i> (antipyretic)	Baidyanath Bhavan
4	<i>Amrutthottaram Kashayam</i>	helps to pacify all the three <i>Doshas</i> with more focus on the <i>Kapha, Pitta Dosh</i> . It's ingredients are widely used in the <i>Ayurvedic</i> treatment for flatulence. As per <i>Ayurveda</i> , it has the properties of being antipyretic, antibacterial, antiviral, anti-inflammatory, antioxidant, immunomodulatory and detoxifier.	SKM Aushadhalaya
5	<i>Pomegranate</i>	<i>Hrudya</i> (improves nourishment of heart), <i>kaphpittaghna</i>	
6	<i>Black Raisins</i>	<i>Brunhan, Jwaraghna</i>	

Conclusions:

Dengue fever is a serious concern among rural areas due to the hygienic condition and a higher risk of morbidity and mortality is observed by the public health department. There is a need for a multidisciplinary and interpathy approach to prevent mortality. There is no specific treatment for Dengue available. This holistic approach of *Ayurveda* to treat the patient is cost effective and with better positive results would be fruitful for all; as the comprehensive intervention of the *Ayurveda* showed better results and all five patients got the complete relief from signs and symptoms of Dengue.

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Conflicts of Interest: None declared.

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